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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,514

12/03/2003

Martin Heeney

MERCK-2791

3769

23599 7590 11/21/2007  
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EXAMINER

WU, SHEAN CHIU

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/725,514	<b>Applicant(s)</b> HEENEY ET AL.	
	<b>Examiner</b> Shean C. Wu	<b>Art Unit</b> 1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 10, 11, 13, 24-26, 33, 34, 36, 40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) 8, 9, 12-16, 18, 20-23, 27-28 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11, 24-26, 33, 34, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-7, 10, 11, 13, 24-26, 33, 34, 36, 40 and 41 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The notations X<sup>1</sup> and X<sup>2</sup> should be deleted because they are not part of formula I.

In item (2), there is no support in the specification for the group X being a “1,4-naphthalene”.

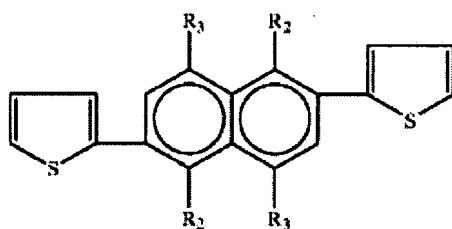
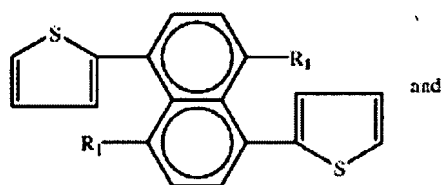
### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

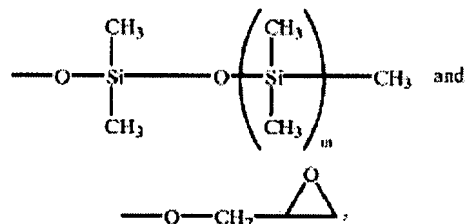
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 10-11, 24-26, 33-34 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan et al. (US 6,359,149).

The reference discloses bithienylnaphthalene- and bis(3,4-ethylenedioxythienyl)naphthalene-based monomers and polymers represented by the following formulae

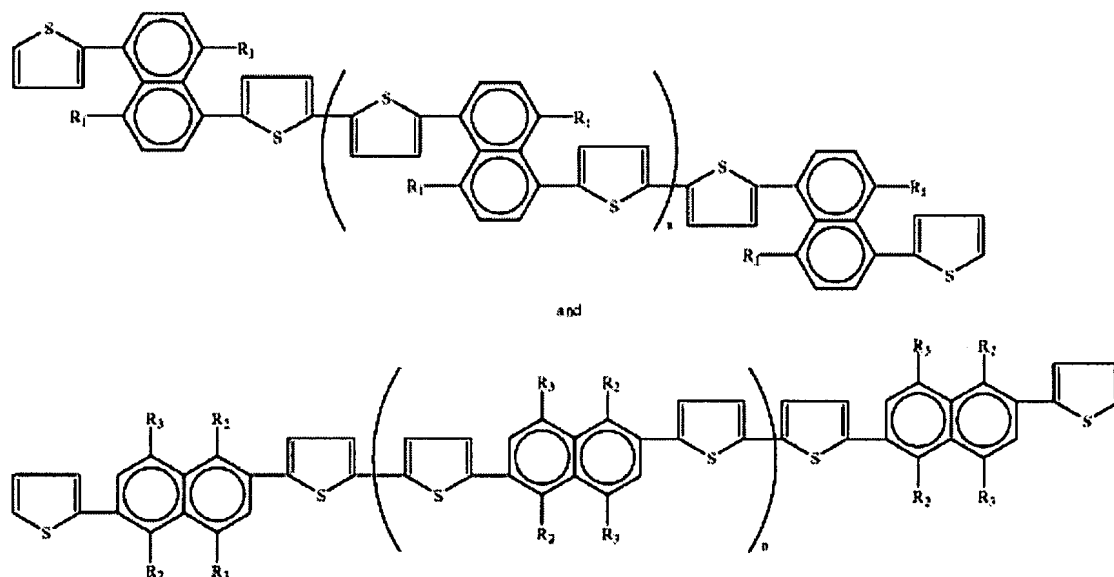


wherein  $R_1, R_2$  and  $R_3$  are selected from the group consisting of  $-H$ ,  $-O(CH_2)_nCH_3$ ,



wherein  $n$  has a value of 0 to 11 and  $m$  has a value of 1 to 4, and wherein no more than one of  $R_2$  and  $R_3$  is  $-H$ . Also provided are polymers resulting from the electropolymerization of these monomers.

The reference further discloses that the reference conducting monomer and polymers are useful for electrodes in various electronic display devices (col. 1, lines 15-20 and col. 10, lines 21-28). The reference polymers have the following structures



wherein  $R_1$ ,  $R_2$  and  $R_3$  are as previously defined and  $n$  is an integer indicating the degree of polymerization and having a value of at least 1. The ethylenedioxythiophene-containing polymers have similar structures.

The reference examples 5-7 and 9-13 read on the present formula I (claim 1), formula Ic (claim 2), formula IIb (claims 11 and 40) and formula IIc (claim 41).

The reference differs from the claims in that the present invention claims as a transistor device containing a semiconductor or charge transfer material comprising at least one mono-, oligo- or polymer of formula I. Because the conducting materials (mono- or polymer) are known and useful in the semiconductor field-effect transistor (see JP 05-312746 (abstract) or US 6,455,873 (col. 3, lines 36-38), therefore, it would have been obvious to those skilled in the art to utilize the reference conducting materials and apply in the transistor device to arrive at the claimed invention.

*Response to Arguments*

4. Applicant's arguments, see Remarks, filed 10/29/07, with respect to the rejections in the previous Office action have been fully considered and are persuasive in light of the newly amended claims by excluding the materials of the references cited in the previous Office action. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made in the sections 1 and 3 above.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Shean C Wu/  
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Primary Examiner  
Art Unit 1795

SCW